



Environmental and Social Screening Report of Dhuk Solar Mini Grid Subproject (50 kWp), Mustang



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Abbreviation

ACAP	Annapurna Conservation Area Project
AEPC	Alternative Energy Promotion Centre
BES	Brief Environmental Study
EIA	Environmental Impact Assessment
ESCOs	Energy Service Companies
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Safeguard Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Screening
E&S	Environmental and Social
GoN	Government of Nepal
HHs	Households
IEE	Initial Environmental Examination
Km	Kilometre
MGEAP	Private Sector-Led Mini-Grid Energy Access Project
MoEWRI	Ministry of Energy, Water Resources and Irrigation
OPs	Operational Policies
PBs	Participating Banks
PV	Photovoltaic
RAP	Resettlement Action Plan
RM	Rural Municipality
VCDP	Vulnerable Community Development Plan
WB	The World Bank

Executive Summary

Alternative Energy Promotion Centre (AEPC), the apex government body under the Ministry of Energy, Water Resources and Irrigation (MoEWRI), has been implementing the Private Sector-Led Mini-Grid Energy Access Project (MGEAP) since June 2019 with support from the World Bank. The objective of the MGEAP is to increase electricity access and delivery from renewable energy mini-grids (solar, hydro, wind, and hybrid) by mobilizing private Energy Service Companies (ESCOs).

Clean Power Pvt. Ltd, an ESCO for Dhuk Solar Mini Grid Subproject has expressed an interest for the installation of solar mini grid of 50 kWp capacity in Dhuk of Mustang to meet energy demands of entrepreneurs and households of Ward No. 1 & 2 of Lomanthang Rural Municipality. Therefore, Environmental and Social Safeguard team of the MGEAP has conducted Environmental and Social Screening (ESS) of the proposed subproject on September 28 and 29, 2021 as mandated by the Environmental and Social Safeguard Framework (ESMF) for MGEAP.

The main objective of the screening is to determine whether the proposed subproject is likely to have potential adverse environmental and social impacts. Other objectives are to establish the level of environmental/social assessment required, help ESCO to understand environmental and social issues related to the subproject before they are considered for implementation, and assist in the decision-making process.

The proposed subproject area is located in the Annapurna Conservation Area. The significant environmental and social issues have not been observed during the field observation of proposed solar PV modules installation site, powerhouse construction site, potential load centre and Transmission & Distribution route. However, some of the potential social impacts are, (i) the subproject might disrupt water supply into irrigation canals during the construction phase of the subproject as an irrigation canal exist adjacent to the site; (ii) the transmission and distribution lines will pass through the side of road and may use some private land, which might have a minimal impact.

Human resource required for the development of subproject will be confirmed after the completion of the DFS. In addition to the GRM system to raise project-related concerns and complaints for the local people, the ESCO will also provide priority for the local people in the employment opportunity generated during the development of subproject. During the consultation with community people it is revealed that there are the availability of work force in the subproject area. The ESCO has plan to provide orientation to workers about the national laws and project policies on GBV & SEA/SH and other transmission of communicable diseases etc.

Consultation with community people and meeting with the representatives of local government revealed that the electricity demand is high in the proposed area. During the consultation, local people were enthusiastic to have the subproject in their area considering that the subproject will be curial to provide electricity and opening new prospect of economic opportunity in their locality.

Additionally, people have shown their commitment to support the subproject. The Conservation Officer of the Annapurna Conservation Area Project (ACAP) was found positive towards the subproject and also supported the AEPC/MGEAP team during the screening.

The subproject does not fall under the thresholds mentioned in the Schedule 1, 2 & 3 of Environmental Protection Rules 2020. Thus, Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) is not required as per the GoN requirement. However, **as the subproject lies in the ACAP region it is recommended to carry out ESIA as per the WB requirement and consult with the Department of National Parks and Wildlife Conservation (DNPWC) of Ministry of Forest and Environment for the requirement of the Government of Nepal for ACAP project approval process¹.**

¹ Based on consultation meeting conducted with Department of National Parks and Wild Life Conservation (DNPWC) on 2 December 2021, they will inform about the level of environment study required after the submission of DFS report to DNPWC.

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1. Background

Alternative Energy Promotion Centre (AEPC) is the apex government body under the Ministry of Energy, Water Resources and Irrigation (MoEWRI), established to promote the use of alternative/renewable energy technology to meet the energy needs in Nepal. The Private Sector-Led Mini-Grid Energy Access Project, supported by the World Bank, has been implemented by AEPC from June 2019. The objective of the program is to increase electricity access and delivery from renewable energy mini-grids (solar, hydro, wind, and hybrid) by mobilizing private Energy Service Companies (ESCOs). The project will deliver financing support to ESCOs to facilitate financial closure and enhance financial viability of the subprojects, provided to ESCOs in the form of loans through participating Banks (PBs), ESCOs to facilitate financial closure and enhance financial viability of the subprojects.

Clean Power Pvt. Ltd, an ESCO for Dhuk Solar Mini Grid Subproject has expressed an interest for the installation of solar mini grid of 50 kWp capacity in Dhuk, Mustang to meet the energy demands of entrepreneurs/hotels and households of Ward no. 1 & 2 of Lomanthang Rural Municipality. Therefore, Environmental and Social Safeguard team of the MGEAP has conducted Environmental and Social Screening (ESS) of the proposed subproject on September 28 and 29, 2021 as mandated by the Environmental and Social Safeguard Framework (ESMF) for MGEAP. ESMF provides the guidance on the level of study required to address the potential environmental and social (E&S) risks and impact, and specifies the process for managing such risks and impacts based on regulatory framework of the Government of Nepal (GoN) and Operational Policies (OPs)² of the World Bank.

2. Dhuk Solar Mini Grid Subproject

The proposed subproject of **Dhuk Solar Mini Grid** is located in Lomanthang Rural Municipality-2, Dhuk of Mustang district, Gandaki Province which is approximately 95 km away north from the district headquarter Jomsom. It is located at latitude 29°13'27" N and longitude 83°58'44.5" E in east with 45° to 50° e land facing towards west south sunshine. There are 5 wards in Lomanthang Rural Municipality and the subproject intends to electrify all the households (HHs) of ward no. 1 & 2 that contains approximately 158 HHs. As there is no national grid power supply, people are using solar home systems and other sources of electricity for lighting purpose. Hotels, Ward Offices, Health post, small scale enterprises, and community people are facing trouble due to shortage of reliable and affordable electricity source. The project will include installation of solar PV modules, T&D line (9km overhead line) and construction of powerhouse as well as ancillary facility of which details will be clarified as part of detailed design study. The access road will not be constructed as the existing road will be used.

3. Objective of Environmental and Social Screening

The ESMF of AEPC/MGEAP has provisioned to conduct Environmental and Social screening of each subproject and categorize environmental and social risk of the subproject based on the screening. The objectives of Screenings are:

² This project was originally processed and approved under the World Bank's old safeguard policies, which therefore apply OPs rather than the ESF.

- To determine whether the proposed subprojects are likely to have potential adverse environmental and social impacts.
- To establish the level of environmental/social assessment required (such as preparation of safeguard document like ESIA, ESMP, RAP, VCDP etc.).
- To identify the need to obtain any regulatory clearances (such as approval for felling of trees).
- To assess if the proposed site and activities meet the eligibility criteria.
- To help ESCOs, PBs to understand environmental and social issues related to the subprojects before they are considered for implementation.
- To assist in the decision-making process.

4. Methodology

The ESMF screening checklist annexed in the ESMF was used for information collection. Community consultation was conducted in presence of the representatives of Chairpersons of Ward 1 & 2 of Lomanthang Rural Municipality and representative of Annarpurna Conservation Area Project (ACAP). Separate meetings were conducted with the Lomanthang Rural Municipality and ACAP. Moreover, community people were informally talked to get their individual opinion and information on the proposed subproject.

5. Screening Findings

5.1 Environmental Issues:

Not any sensitive issues are identified at the proposed site as well as immediate vicinity of the site. The nearby river is the Chhoser River which is located approximately 65 m away from the proposed subproject site. Community people informed that they are not aware of any flooding event. Not any community forest or any other forest are located in nearby vicinity. Residential area being in distance from the proposed site shall not have impact of noise and dust during construction phase. The nearest settlement from the proposed site is Dhuk village, which is approximately 230 m from PV array site. A few native bushes of fruits such as sea buckthorn are found around the subproject area.

The proposed solar mini grid subproject is located in the Annapurna Conservation Area. The ACAP is the first conservation area and largest protected area in Nepal, expanded in 15 Rural Municipalities. It covers an area of 7,629 km² and is home to over 100,000 residents of different cultural and linguistic groups. ACAP is rich in Biodiversity and is a treasure house for 1,226 species of flowering plants, 105 mammals, 518 birds, 40 reptiles and 23 amphibians. It has the world's deepest river gorge – Kali Gandaki Gorge, which is 3 miles long and 1.5 miles wide.

However the proposed site does not contain any ecologically important flora/fauna species and is not a route to the migratory birds, thus the impact on biodiversity is not envisaged. Though the subproject area of influence includes aesthetically and archeologically as well as culturally and traditionally valuable assets, the subproject activities will not have any impact on them. The land acquisition for the installation of solar PV modules, T&D line and construction of powerhouse will not have any impact on livelihood of local people. The consultations with Annapurna Conservation

Area Project, Lomanthang Rural Municipality, Ward Offices, and representatives of women's group, clubs and locals revealed the urgency of reliable source of electricity in the target area for the improvement of living standards of people and for enhancing economic activities.

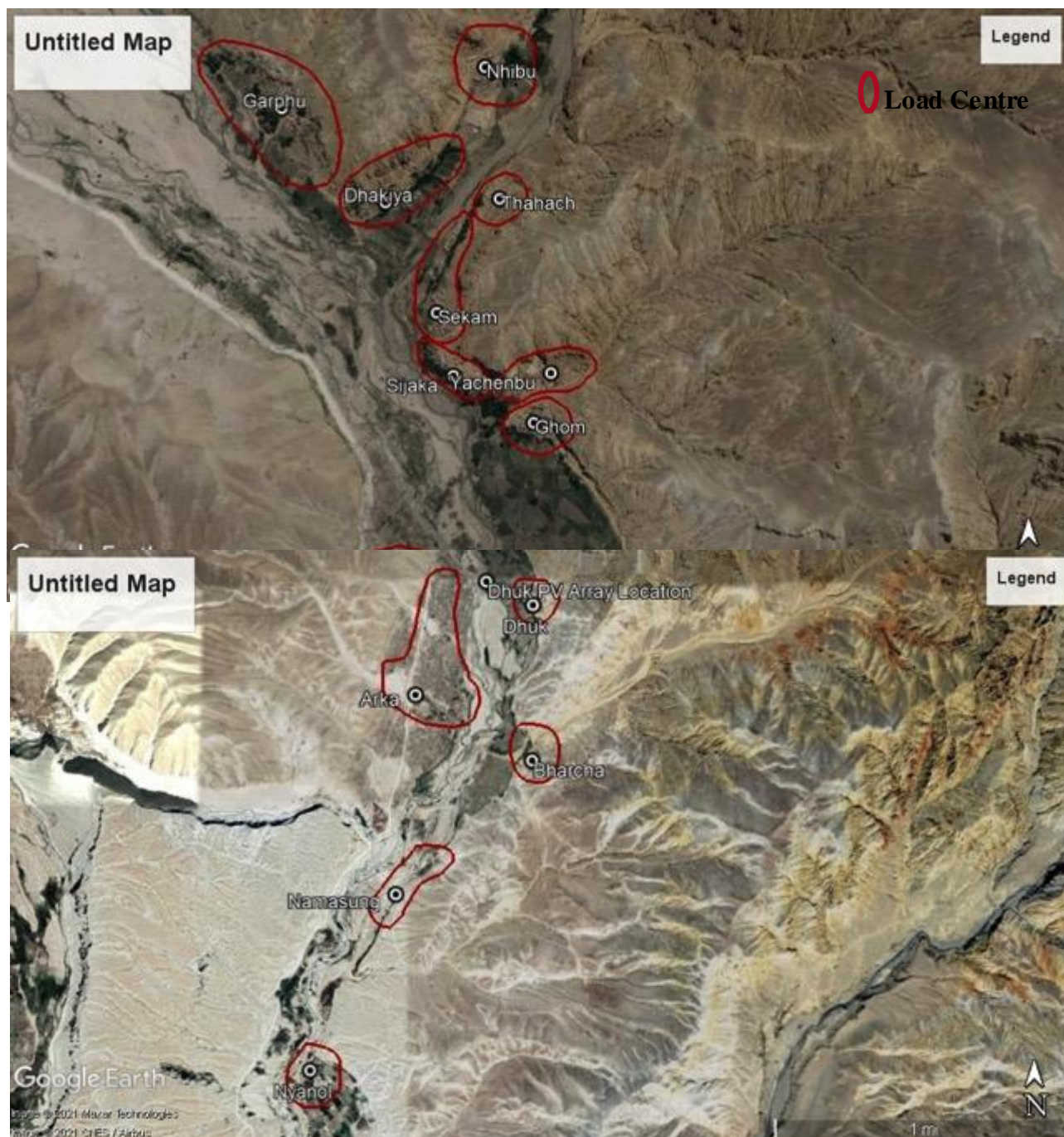


Figure 1: Google Map of the proposed subproject location (and load centres)



Figure 2: PV Array location showing the nearest settlement and Chhoser Khola

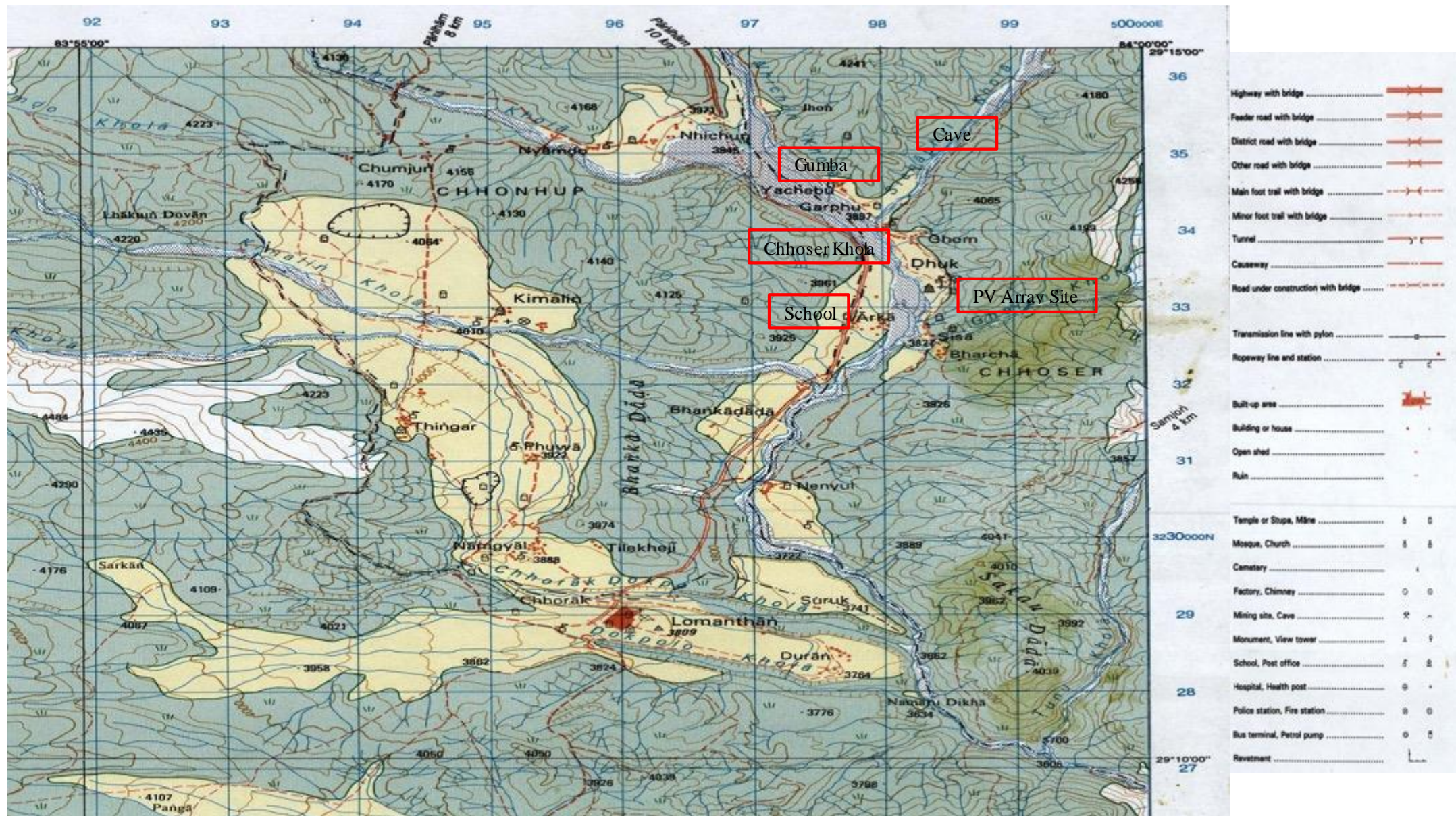


Figure 3: Topo Map of the Proposed Subproject Area

5.2 Socio-economic and cultural environment of subproject area

5.2.1 Demography

As per Ward Survey 2074 conducted by the Lomanthang Rural Municipality, the RM had total 2,634 population with 1,319 males and 1,315 females. Out of total wards, ward number 5 had the largest population 765, while ward number 1 had least number of population with 319. There are 5 wards in Lomanthang Rural Municipality and the ESCO has planned to serve electricity generated from Dhuk Solar Mini grid for the people of ward no 1 and 2. The total population of ward no 1 & 2 is 794 with 409 females and 385 males. (*Ward Survey, 2074*)

5.2.2 Literacy and Education

There are approximately 34% population of total who can read and write in Lomanthang Rural Municipality. Regarding to Ward no. 1 & 2 of Lomanthang Rural Municipality, out of 794 population 484 are literate, 297 are illiterate, 23 has education up to School Leaving Certificate (SLC) and 52 has higher education. (*Source: Ward Survey, 2074*)

5.2.3 Economy, Livelihood Patterns and Practices

Agriculture, animal husbandry, and trade have been the primary sources of livelihood in Lomanthang (Upper Mustang) since ancient times. But now tourism is also becoming a major source of livelihood in Lomanthang. Besides these running hotels, small and medium scale enterprises, foreign employment and job in service sector are other economic activities of people in Lomanthang.

Lomanthang is semi-arid and has extremely low rainfall with desert like climate. Agriculture is mostly rain-fed, with partial glacier-fed irrigation. Because of the single cropping season, farmer cultivates only a few varieties of crops. Bitter/sweet buckwheat, barley, wheat, mustard, pea, potato, Sea Buckthorn (fruits) etc. are the major crops grown in subproject area.

5.2.4 Caste and Ethnicity

Lomanthang is considered to be one of the most spectacular and culturally rich highland places located in Upper Mustang in Nepal. The people of different ethnicity and religious community reside in the subproject area. The nearest settlement from the project area is Dhuk villages, which is approximately 300 m away from the subproject. The majority of the beneficiaries are from indigenous people (Gurung community), and only 4-5 households belongs to Sherpa (Bista) community.

5.2.5 Language, Cultural and Religious & Historical Sites of Subproject Area

The people of Upper Mustang call themselves “Lowa”. Lo- means north in Tibetan language and “Lowa” refers to the people of north in Tibet. The language they speak is called “loba”, which is a dialectical version of Tibetan language. The lowa people practice Tibetan Buddhism. The culture of Lomanthang RM is more attuned with the culture of Tibetan people.

The people residing in the subproject area follow the Buddhist Religion. Tenji, Yartung, Fakni, Loshar (Sonam) and Buddha Jayanti are some of the major festivals celebrated by the people living in the subproject area. There are Gumbas named Garphu and Nifu in Chhoser, which is around 1,000 m away from the subproject site. The both the Gurung and Bista community celebrate their rituals in Gumbas. In addition to it, there are archeological importance sites like Sija Jong Cave (Gufa) and Chenpa Konchholing Cave (Gufa) which is around 1,200 m away (aerial distance) from the subproject area.

5.2.6 Community Development & Local Infrastructure

The presence of local infrastructures like irrigation canal, road, communication, schools, gumba and health post are found in the nearest settlements of the subproject area. In the field visit it is discovered that people of local community are found happy with proposed Dhuk Solar Mini Grid thinking that the electricity generated from Mini Grid will be helpful to eradicate the problem facing by community people in the absence of electricity. People have plans to establish businesses such as juice factory, furniture, grinding mills etc.

5.2.7 Permits/Clearance Required:

During the consultation with villagers, it was revealed that the land for the proposed site is in the name of Dibyadeep Secondary School. Necessary approval should be obtained by the ESCO from school to use the land before the commencement of any development activities. The ESCO is planning to take the proposed land from school in long term lease.

The subproject does not fall under Schedule 1, 2 and 3 of the *Environment Protection Rule 2020*. Therefore there is no need to conduct Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA). However, Department of National Park and Wildlife Conservation (DNPWC) under Ministry of Forest and Environment is responsible institution to take the decision on level of E & S study required to carry out for the proposed subproject. ESCO needs to consult with Ministry of Forest and Environment, DNPWC and NTNC/ACAP regarding further GoN requirements and to acquire the required approvals from the GoN.

5.2.8 Land Use and Land Ownership:

The proposed land is Barren land and is in the name of Dibyadeep Secondary School. The ESCO need to consult with the School Management Committee to obtain the proposed land in lease. As the land is left barren and is with fencing, the proposed land to be used by subproject will not impact the villagers.



Photo 1: Proposed Land for Solar PV Array Installation and Powerhouse Construction

5.2.9 Accessibility to Subproject Area

ESCO will use the existing road to reach the proposed site. There is motorable earthen road of two lanes up to the Dhuk and there is around 300 m long foot trail to reach the site via Dhuk village. However, the ESCO has proposed to use the alternative route to deliver the construction materials to the site, which is a bridge of 20 m long. The ESCO has planned to use workforce to carry the construction materials to the site from Dhuk. Construction materials and electromechanical equipment shall be transported from Pokhara to Chhoser via Jomsom through road.

5.2.10 Any sensitive area:

The proposed site is situated in Annapurna Conservation Area Project (ACAP) region. Though, during the consultation with relevant stakeholders and field visit not any specific impacts on vegetation and special species were observed, it is recommended to carry out detail Environmental and Social Impact Assessment (ESIA) as the proposed subproject being in the conservation area to identify the potential impacts associated with subproject development activities.

5.2.11 Need for VCDP:

From the screening and community consultation it came to know that all the beneficiaries' households are from Gurung community except 4-5 households (belongs to Bista community). No direct adverse impacts on vulnerable groups were foreseen. If ESIA identifies any risks to vulnerable groups then VCDP will be prepared and implemented.

6. Need for RAP: There is no need to prepare RAP.

7. Need for Environmental and Social Assessment:

The subproject does not fall under the thresholds mentioned in Schedule 1, 2 & 3 of Environmental Protection Rules 2020. Thus, the ESCO does not need to prepare Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) as per GoN requirement. However, as the subproject lies in the ACAP region it is recommended to carry out ESIA as per the WB requirement and consult with the Department of National Parks and Wildlife Conservation (DNPWC) for the requirement of the Government of Nepal. Environmental impacts on Chhoser River should be further assessed in the proposed ESIA.

8. Need for any special study:

As the proposed subproject area is located nearby the Chhoser River (Around 65m away), a brief hydrological study shall be carried out to estimate the flood discharges of the rivers through statistical approach. ESCO shall be responsible to conduct the study.

9. Stakeholder Identification

The major stakeholder met and discussed during the screening are Local Representatives of Lomanthang Rural Municipality, Conservation Officer of Annapurna Conservation Area Project, representatives of local clubs and woman group, Indigenous People and Women of subproject area.

There were two consultations conducted to get the perception of local representatives and people around the subproject area regarding the development of solar mini grid. Among

the 28 participants in consultations 14% were women and 86% were men. Similarly, 79% participants in consultation were from the indigenous community and 21% representation from Bhramin/Chhetri. In addition to it, a separate meeting with women of Dhuk village was conducted.



Photo 2: Meeting with Chairperson of Lomanthang Rural Municipality

The consultation with the following stakeholders were carried out during the E&S Screening visit of the subproject.



Photo 3: Meeting with women in Dhuk Village

- Meeting with Project Chief of Annapurna Conservation Area Project Area (ACAP) on September 27, 2021
- Meeting with Chairperson of Lomanthang Rural Municipality and other local representatives on September 28, 2021
- Meeting with President of Ward No. 1 & 2 of Lomanthang Rural Municipality on September 29, 2021
- people of subproject area near the proposed subproject site September 29, 2021
- Technical validation of subproject site on September 29, 2021.

9.1 Notification of Stakeholders during Screening

- Local people were happy due to the subproject in their area, which will provide electricity and open new prospect of economic opportunity in their locality.
- ACAP is ready to support for necessary approval/permission that need to be taken before the commencement of subproject development activities.
- Representatives of Lomanthang Rural Municipality were very positive to facilitate to the ESCO for obtaining school's land needed for the subproject.
- Local people have shown their concern to commence the subproject development activities at earliest possible and they have shown their commitment to support the subproject.

10. Risk Categorization

The environmental and social impact envisaged from the construction activity of solar mini grid in the proposed subproject area is minimal and no significant adverse impact is foreseen. Though, the subproject is classified as **Low Risk**, due to the subproject site located in ACAP region further environmental and social impact assessment needs to be carried out for identification of E&S risk associated with subproject.



Photo 4: Consultation Meeting with Local People in Dhuk Village near to the proposed site

Category - Low Risk Subproject

- Prepare Environmental and Social Impact Assessment (ESIA) as provisioned in the Project's Environmental and Social Management Framework (ESMF), including the following Plans.
 - Occupational Health and Safety Plan
 - Emergency Preparedness and Response Plan
 - Battery Management Plan
 - Waste Packaging Materials Management Plan
 - Spoil Management Plan
 - Labour Management Plan
 - Traffic Management Plan

- No requirement of any safeguard document as per the *Environment Protection Rule, 2020* of Government of Nepal.



Photo 5: Consultation Meeting with Local People in Dhuk Village near to the proposed site

11. Recommendation

- Conduct consultation with the nearby community, relevant stakeholders during detailed feasibility study (DFS) stage and ESIA.
- As the proposed land for the installation of solar modules/powerhouse is in the name of Dibyadeep Secondary School. ESCO need to consult with School Management Committee to obtained the land in lease.
- The subproject area is located in the ACAP region. Thus, it is recommended to carry out detailed Environmental and Social Impact Assessment (i.e, ESIA) of the subproject.
- Though the proposed subproject is not mentioned in any threshold of the EPR2020, it is recommended to consult with the DNPWC for the GoN requirement for environmental and social assessment as suggested by the Conservation Officer of the ACAP Office, Mustang.

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Date:.....

Date:

12. Annexes

Annex-I

Relevant Photographs



P:1 Settlement of Lomanthang RM, Ward:1



P:2 Land proposed for Solar Mini Grid



P:3 Settlement of Lomanthang RM, Ward:2



P:4 Irrigation canal near to proposed subproject site

Annex-II
Screening Checklist

13. Environmental and Social Screening Checklist

Solar, Wind and Solar/Wind Hybrid Mini Grid

Screening Team		Date: September 27 to October 2, 2021
Name of the Team Leader		
Name of the Senior Safeguard Environmental Expert	Dr. Anusuya Joshi	
Name of the Social Safeguard Expert	Shiva Hari Budhathoki	
Name of the other team member	Dipesh Shrestha, Solar Wind Expert	
Name of the member from Clean Power Pvt. Ltd.	Subash Shah, Electrical Engineer	
The purpose of this checklist is to identify potential environment and social issues related to subproject development, construction and operation.		

(A) Subproject Background

1.	Name of proposed subproject	Dhuk Solar Mini Grid Subproject, Mustang
2.	Location (please attach location map and photo)	Province: Gandaki District: Mustang District headquarter: Jomsom Rural municipality/municipality: Lomanthang Rural Municipality Ward No. 2 Local name of the place: Dhuk, Chhoser
3.	Geographical coordinates	29° 13' 27" N, 83° 58' 44.5" E
4.	Altitude	3830 masl
5.	Environmental setting of the sub-project (surrounding environment, land cover/use, important environmental/ecological features at the site etc.)	Barren Land covered with few bushes Native bushes of sea buckthorn found in the surrounding area Chhoser river flows in 65 m away from the proposed site
6.	Name of ecological habitat nearby including national parks/protected areas	The subproject is located in the Annapurna Conservation Area Project (ACAP) region

	and its distance	
7.	Subproject objectives	Electricity generation from solar mini grid and supply to meet electricity demand of households and enterprizes in Ward 1 & 2 of Lomanthang Rural Municipality.
8.	Subproject activities (including design phase, construction phase and O&M phase)	Subproject Planning phase E&S Screening
9.	Name and address of subproject developer	Clean Power Pvt. Ltd., Lalitpur
10.	Name of communities near the subproject site and distance from the subproject site	Dhuk Village which is around 300 m away from the proposed subproject site
11.	Number of beneficiary households of the subproject	158 Households
12.	Number of households in the project area (Host community)	The proposed subproject has planned to electrify all households of Ward No. 1 & 2 of Lomanthnag RM
13.	Capacity (kWp) of the subproject	The proposed capacity is 50 kWp, however the DFS will analyse the load demand and finalise the capacity of the subproject
14.	Powerhouse area, m ²	582 m ²
15.	Length of Transmission and Distribution line (meter)	Approximately 9 km of overhead line Land acquisition is not required
16.	Relevant national requirements (assessment, threshold limits and relevant clause/rule of the EPA/EPR etc.)	The subproject is not included in Schedule 1, 2 and 3 of the <i>Environment Protection Rule 2020</i> to conduct Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Study (EIA) respectively. However, ESCO needs to consult with MoEWRI, DNPWC and NTNC/ACAP regarding further GoN requirements.
17.	Project safeguard requirements (Mention which OPs are triggered)	OP/BP 4.01 – Environmental Assessment OP/BP 4.04 - Natural Habitats OP/BP 4.10 - Indigenous Peoples (Need to consult) Needs to conduct ESIA as the subproject is located in the conservation area.
18.	Project implementation schedule	NA

(B) Subproject selection criteria

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
1.	Is there indication of: a. Significant adverse impacts on ecologically sensitive areas ³		✓	Though the subproject site is located in the ACAP region, installation of solar PV modules, T&D line and construction of powerhouse will not have any significant impact. The proposed solar mini grid subproject is located in the Annapurna Conservation Area. However the proposed site do not contain any ecologically important flora/fauna species and not a route to the migratory birds, the impact on biodiversity is not envisaged
	b. Large-scale resettlement ⁴		✓	There will not be any resettlement for the subproject activities
	c. Significant adverse impacts on cultural heritage		✓	As the subproject area is located at isolated area from settlement and cultural & historical site, such impacts are not envisaged
	d. Subproject in disputed area or territory ⁵		✓	It is not located at disputed territory.
2.	If yes, can these impacts be eliminated or reduced to acceptable levels through adequate application of mitigation measures?			

(C) Environmental and Social Screening

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
Subproject's site				

³Significant adverse impacts on ecologically sensitive areas will be determined using international best practice and tools, as well as based on the outcomes of relevant studies within the ESIA.

⁴ Large-scale resettlement is defined as physical displacement of 100 or more number of people. Physical displacement would mean relocation/ loss of shelter and assets resulting from the acquisition of land that requires the affected people to move to another location.

⁵ Disputed Territory is a disagreement over the possession/control over natural resources such as land, rivers between two or more individuals, communities, RM/Municipalities, Provinces and Nations.

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
1.	Define subproject's boundaries(direction, East, West , North & South) and area of influence on the map			<u>Area of Influence</u> Dhuk village E: Surkhang Village W: Lomanthang Ward No. 3 &4 S: Lomanthang Ward No. 5 N: Korala Boarder
2.	Is the subproject site adjacent to or within any of the following sensitive receptors?			
	i. Natural habitats and/ or legally protected areas (wetlands, forests, estuary, buffer zones, nature reserves); if yes, is there possibility of a critical habitat present ⁶ ? What are the ranges of endangered or threatened animals/birds/plant species (if known at time of screening)?	✓		Project site is located in Annapurna Conservation Area Project region ACAP covers an area of 7,629 km ² and is home to over 100,000 residents of different cultural and linguistic groups. ACAP is rich in Biodiversity and is home for 1,226 species of flowering plants, 105 mammals, 518 birds, 40 reptiles and 23 amphibians. It has the world's deepest river gorge – Kali Gandaki Gorge, which is 3 miles long and 1.5 miles wide.
	ii. Cultural heritage site (e.g. temple, monastery, mosque)?		✓	The nearest monastery/Gumba is around 1,000m-1,200 m (aerial distance) away from proposed site

⁶ Critical habitat is defined based on global good practice as a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value that meet the criteria of the World Conservation Union (IUCN) classification, including habitats of significant importance for required for critically endangered or endangered species as defined by the IUCN Red List of Threatened Species; habitats of significant importance for endemic or restricted-range species; habitats supporting globally significant concentrations of migratory species and /or congregatory species; areas with unique assemblages of species or which are associated with key evolutionary processes. Primary Forests or forests of High Conservation Value shall be considered Critical Habitats. This includes HCV forests. HCV areas do not directly correspond with definitions for modified, natural, and critical habitat. The HCV Resource Network, an internationally recognized group, provides information and support on the evolving usage of HCV to ensure a consistent approach. <https://www.hcvnetwork.org/>.

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
	iii. Is the site located on Aesthetically Important Viewpoints ⁷ ?	✓		The mountains near the subproject has distinct landscape and is in the touristic area
	iv. Is the site located near main settlement and trade centres? Description (approximate distance, no. of HH and population, nature and special feature /importance / significance)		✓	The nearest settlement from the subproject site is Dhuk Village and is approximately 300 m away from the site. It has 17 households.
	v. Fragmentation of habitat of flora and fauna (Avifauna and mammalian fauna)?			The proposed site do not contain any ecologically important flora/fauna species and route to the migratory birds, the impact on habitat of flora/fauna is not envisaged
	vi. Are there any flood prone / river cutting / low lying / areas near or within site? What are challenges and opportunities associated flood/river cutting/low lying areas (if any)?		✓	There is Chhoser River near the proposed site which is approx. 65 m away. According to locals, not any flood has been recorded in the river.
	vii. Are canals and irrigation systems present in direct proximity to subproject site?	✓		Irrigation canal exists nearby the proposed site. It is around 15-20 m away from the site.
	viii. Are there any water sources or springs near or within site?	✓		Local people use Chhoser river as the source of water
	ix. Is the proposed site located on agricultural land? Is there any possibility of crops and vegetation due subproject development activities?		✓	The proposed site is left barren. The Sri Dibyadeep Secondary School, which was in the proposed land has been moved to the new area. Currently, there is no infrastructure in the land.
	x. Is subproject site accessible round the year or only in dry season? Description of condition of road/track (black top, fair weather etc.) or need to construct new road, total length, nearest road head etc.	✓		Due to the heavy snowfall in winter season, the site is accessible except in winter. There is earthen road from Jomsom up to Dhuk Village and around 300 m foot trail road exist to reach the site. ESCO will use the same road to deliver the construction

⁷Aesthetically Important Viewpoints are the places with natural beauty and well known for touristic destination.

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
				materials needed for the subproject.
	xi. Is the proposed site located on area used by Indigenous people		✓	The proposed site is in the name of Sri Dibyadeep Secondary School, which is not used by Indigenous people
	xii. Is the subproject area important for indigenous people from the point of view of communal right and customary practices & beliefs?		✓	The subproject area is not important for indigenous people from the point of view of communal right and customary practices & beliefs
	xiii. Does the proposed site host vulnerable and marginalized people such as Dalits and religious minorities?		✓	Majority of beneficiaries are from indigenous community (Gurung) and only 4-5 households are from Bista Community. All the beneficiaries follow the Buddhist religion.
	xiv. Is there any expectation of vulnerable or indigenous people from subproject?	✓		The subproject area is resided by Indigenous peoples. During the consultation, the participants expressed their expectation for electricity at the earliest possible.

Potential Environmental Impacts

3.	Impacts on natural resources that constitute livelihoods of community (e.g. water resources, fishing, grazing or hunting grounds)?		✓	During site visit for screening such impacts were not observed. ESIA will further assess such impacts in detail.
4.	Disfiguration of landscape?		✓	The subproject development activities will be carried out in barren land. There will not be disfiguration of landscape.
5.	Is there potential for landslide and soil erosion impacts? If yes, please provide following information: - Past and present conditions and values (including tentative area to be affected, risky areas) What are challenges and opportunities associated with landslides and erosion (if any)		✓	The proposed site is not located in landslide and soil erosion prone area. The proposed land is in flat area. The proposed site lies in the South Tibetan Detachment System. ESIA will assess the earthquake risk at the site including the existence of the active faults.

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
6.				
7.	Will the subproject cause increase in waste generation? Describe types and expected amount of waste.		✓	Spoil generated from excavation will be used in backfilling. Waste Management Plan will be prepared for packaging waste.
8.	Will there be forest loss in terms of area (if yes, type of forest)? Will it lead to loss of forest species (provide details of the loss of listed species according to national and international – specifically IUCN - classifications)?		✓	There is no forest area in the subproject site and T&D line route.
9.	Is loss of non-forest species possible? If so, are these listed species (as above)?		✓	There is no forest area in the subproject site and T&D line route.
10.	Is the subproject site a habitat of flora/fauna species of ecological importance including migratory birds?		✓	Migratory birds do not use the route over the proposed land, according to the locals.
11.	Will the subproject have potential impacts on the flora/fauna species with ecological importance?		✓	Not envisaged as the subproject area do not bear flora/fauna species with ecological importance
12.	Creation of barrier for migratory land animal		✓	Land animal do not use the proposed land
13.	Construction of permanent access road near or through forest?		✓	Not needed
14.	Other potential biodiversity impacts (specify)?		✓	Not envisaged
15.	Loss or destruction of unique or aesthetically valuable land		✓	T&D might impact aesthetic value of the forbidden city
16.	Disturbance of large areas due to material quarrying		✓	Only small scale quarrying is required for the installation of solar PV module and poles. Potential location of quarries and associated impacts will be assessed in ESIA.
17.	Availability of local construction materials a) Stone b) Sand c) Wood (For door, window and roofing	✓		Stone, sand, wood

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
	etc.) d) Wood for Pole			
18.	Potential noise/vibration impacts in the nearby communities		✓	The scale of construction work will not have such impacts in the nearby communities
19.	Potential visual impacts as the result of consultation of solar/wind power development	✓		Only T&D line
20.	Potential impacts due to glaring of solar panels		✓	The proposed site is approx. 300 m away from the settlement and not in the route of traffic. Therefore, such impact is not anticipated.
Labour and working conditions				
21.	Is there any estimate of the number of workers to be involved in the sub-project during construction? (If “Yes”, provide the total number (skilled, semiskilled and unskilled) and number of women worker)		✓	Technical human resources may need to hire from outside from community. The details of workers will be confirmed after DFS
22.	Is there availability of labour force (skill & unskilled) in local level for the construction of subproject?	✓		There is availability of labour force in subproject area. For the employment local people will be given priority as per their skill.
23.	Will there be migrant workers from within the country?	✓		Technical human resources basically skilled may need to hire from outside from community.
24.	Will there be any foreign workers?		✓	There won't be any foreign worker
25.	Does the subproject plan to provide residential facilities to the workers? (If “yes”, does it plan to construct a labor camp or manage their residency in the host community)	✓		Subproject plan to provide residential facilities to the workers if needed to hire outside from community
26.	Does the subproject have plans to provide orientation to migrant workers about national laws, local tradition, culture, costumes, norms, and values?	✓		The labour force is responsible to adhere social, cultural, political and economic norms and values community near and around the subproject. Labour

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
				management plan will be developed and implemented. The migrant labours will be oriented national laws, local tradition, culture, costumes, norms, and values and SEA/SH
27.	Does the subproject plan to provide orientation to workers about the national laws and project policies on GBV & SEA/SH?	✓		The AEPC has formulated the procedure on SEA/SH prepared based on the National regulation. Moreover, the project is in the process to prepare Action Plan on SEA/SH. Thus, the subproject will provide orientation to workers about the national laws and project policies on GBV & SEA/SH.
28.	Does the subproject plan to provide orientation to workers about the risks of communicable diseases such as STDs and the protocols on COVID-19?	✓		Subproject specific Labour Management Plan and Standard Operating Procedure on COVID-19 pandemic will be developed and implemented. The subproject will provide orientation to workers about the risks of communicable diseases such as STDs and the protocols on COVID-19.
29.	Is there any possibility of conflicts between migrant workers and the local community?		✓	Skilled human resources which is not locally available will be hired only for a short period
30.	Is there any history of conflict between the migrant workers and the local community in project area or in the district?		✓	During the consultation meeting with villagers, such incidents were not reported.
Potential Community and Occupational Health and Safety Impacts				
31.	Are there community health and safety risks due to the transport, storage, and use and/or disposal of materials likely to create physical, chemical and biological hazards?		✓	Not envisaged for the solar subproject
32.	Will the construction works disturb other commercial/community/residential		✓	Construction zone is isolated from settlement so it won't

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
	activities?			disturb. Transmission and distribution activity may create some disturbance in the community but not commercial.
33.	Will the subproject create major noise/vibration beyond the level permitted by the law?		✓	Minor noise generated during construction will not have any impact as the site is in isolated area.
34.	Will it create dust problem around the sites?		✓	Construction activity do not involve major excavation that generates dust. However, if some dust generates during construction it will not have any impact as the site is in isolated area. Workers will be encouraged to use proper PPE.
35.	Will it impact on the water supply and sanitation system?		✓	There will not be any impact on the water supply and sanitation system
36.	Any potential impacts to public health via potential water logging and degradation of land and water quality		✓	The solar subproject involves only limited activities of civil works. Therefore, such impact is not envisaged
37.	Will subproject's construction cause disturbance to the transportation in the subproject's site?		✓	Subproject site is in distance from the transportation route. Moreover, only limited vehicle move around the subproject area. Thus, the construction activities will not disturb transportation.
38.	Are there any risks of accidents and natural hazards during to the community during construction and operation?		✓	Such risks are not anticipated as the subproject activities will be carried out only under the supervision of experts.
39.	Will batteries be removed/disposed (lead-acid or nickel-cadmium batteries from emergency lights and other battery-powered or battery-backup items?	✓		Battery backup items will have guarantee of 10 years. Moreover, Battery Management Plan will be developed based on the type of the battery to be used and will be managed accordingly.
40.	Will there be any solid waste generated by		✓	The construction activity will

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
	subproject that needs to be transported off-site for reuse, recycle or disposal of?			not use such liquid.
41.	Will any explosive and hazardous chemicals be used within the project?		✓	The subproject activity will not use any explosive and hazardous chemicals
42.	Will the project use materials coated with lead-based paint or equipment containing mercury, asbestos, lead, silver, or chrome?		✓	Such material is not present at the site
43.	Will an emergency generator set or other aboveground storage tank (AST) be installed or removed?	✓		Generator can be used during the installation of solar mini grid
44.	Will there be provision to control trespassing of non-project staff on the project site during construction and operation?	✓		The subproject area will be fenced for control trespassing of non-project staff
45.	Does the sub-project plan to provide orientation to surrounding communities about the risks of communicable diseases and COVID-19?	✓		It is planned to provide orientation to surrounding communities about the risks of communicable diseases and COVID-19
Potential Social Impacts				
46.	Does the project need permanent land acquisition		✓	The land used for the subproject is in the name of School, which will be taken in leased. Thus the subproject does not need permanent acquisition.
47.	If “Yes”, what kind of land the project needs? Private land Public/forest land Government land Leasehold land			
48.	Does the project plan to acquire private land? If “Yes”, how it is planning to acquire private land Through voluntary donation Though involuntary acquisition Through negotiation (Willing buyer & willing seller)		✓	The subproject will use the land of School in lease. ESCO is responsible to obtained land on lease.
49.	Does the project plan to take land on lease? If “Yes”, what kind of land it plans to take on	✓		The land used for the subproject is in the name of School (Dibyadeep Secondary

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
	<p>lease</p> <p>Private land</p> <p>Forest land</p> <p>Government land</p>			School), which will be taken in leased.
50.	<p>Will there be any physical/economic displacement and impact on livelihoods due to private land acquisition?</p> <p>If “Yes”, please provide information on</p> <p>How many people/families will be displaced?</p> <p>What will be the scale of economic displacement?</p> <p>What will be the scale of impact on livelihoods of impacted people/families</p> <p>How does the project plans to help the impacted people/families restore their livelihoods?</p>		✓	The subproject activities will not involve in economic displacement. It is observed that it will open new prospect of livelihood/economic opportunities after intervention of subproject
51.	Will there be permanent land acquisitions or restrictive use of land to evacuate the power (transmission line) in the sub-project?		✓	For the transmission and distribution line road side land will be used. For private and public land used for the T & D, approval will be taken from the concerned authority before the commencement of T&D works.
52.	Will there be loss of productive land		✓	During the screening visit such impacts were not observed.
53.	Involuntary land taking resulting in loss of income, livelihood, sources of livelihood, loss of access to common property resources and/or private residential and/or property resources		✓	The subproject will not involve any Involuntary land taking.
54.	Adverse impact on non-title holders including loss of shelter and livelihood		✓	Such impacts were not observed during field visit.
55.	Will subproject activities have adverse impact on school, drinking water supply system, and other facilities?		✓	As the subproject activities will be carried out in isolated area impacts on community/social

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
				infrastructures are not observed. However there is irrigation canal system nearby the subproject site, development activities need to be carried out without impacting on canal.
56.	Will subproject need to use existing or open new access roads? What will be the impacts of increased traffic on communities?		✓	The subproject area can be reached via earthen road and foot trail except in winter season. The delivery of construction material to the subproject site is possible through using vehicle and human force. Thus, the subproject do not have to construct new access road. Transportation of construction materials will be limited, so there won't be any major increase in traffic.
57.	Will subproject's construction cause any damage to the existing local roads system?		✓	Subproject's construction will not cause any damage to the existing local roads system.
58.	Adverse impact to women including economic and safety concerns		✓	It is envisaged that clean energy from the proposed solar mini grid will help to reduce drudgery of women and open the new prospects of economic activities
59.	Possible conflicts with and/or disruption to local communities		✓	From the consultation, such conflicts are not anticipated
60.	Any adverse impacts on community infrastructures?		✓	As the subproject activities will be carried out in isolated area impacts on community/social infrastructures are not envisaged.
Indigenous and vulnerable People				
61.	Are there any indigenous people among the identified project-affected people? If "Yes", please mention the type of project-related impact to the indigenous people.		✓	The majority of beneficiaries are from Gurung community (indigenous people). Not any project related impact to them is envisaged.

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
62.	Is there any displacement of indigenous people due land acquisition for the project? If “Yes”, please mention The caste of the indigenous people: Language they use:		✓	Subproject will not acquire any land that will displace indigenous people and others.
63.	Are there any other vulnerable people, such as Dalits, religious minorities, landless and people with disabilities/chronic disease?		✓	People of subproject area follow the Buddhist religion. Dalits are not present in the subproject area. Majority of people do not have land in their name. The subproject will not acquire any private land as possible for T&D line.
Cultural Heritage				
64.	Does the proposed site or surrounding area host any cultural and religious heritages/temples/structures? If “Yes”, explain briefly		✓	The people who resides in the subproject area follow the Buddhist Religion. Tenji, Yartung, Fakni, Loshar (Sonam) and Buddha Jayanti are the festivals celebrated by the people living in the area. There are Gumbas named Garphu and Nifu in Chhoser, which is approx. 1,000 m away from the subproject site. Both the Gurung and Bista community celebrate their rituals in Gumbas. In addition to it, there are archeological importance sites like Sija Jong Cave (Gufa) and Chenpa Konchholing Cave (Gufa) which is approx. 1,200 m away (aerial distance) from subproject area.
65.	Will the subproject cause encroachment on historical/cultural/religious areas?		✓	Subproject development activities will not encroach historical/cultural/religious areas
66.	Will there be any adverse impacts on cultural heritage due to subproject activities?		✓	Such impacts are not envisaged
67.	Does the proposed site provide access to any cultural/ religious heritages or temples or sites?		✓	Subproject area is in isolated area from settlement and cultural/ religious heritages or

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
				temples or sites.
Stakeholder engagement				
68.	Have the stakeholders of the subproject been identified?	✓		ACAP, Rural Municipality, Ward Offices, Himalayan Youth Club, Woman Groups, Local People, School, and health post are some the stakeholders identified and consulted.
69.	Have the stakeholders been categorized in terms of gender, age, and ethnicity?	✓		Among the 28 participants in consultations 14% were women and 86% were men. Similarly, 79% participants in consultation were from the indigenous community and 21% representation from Bhramin/Chhetri. In addition to it, a separate meetings with women of Dhuk village was conducted.
70.	What are the main sources of information for the stakeholders? [Hint: radio, TV, newspapers]			Radio and TV are the main sources of information for the stakeholders. Internet service is not available to the subproject site.
71.	Is there social institution/practice for community consultation on common issues in the area?			There are woman groups and clubs where community people will have meeting on issues related to their community.
72.	Is there any social/religious/cultural institution or practices for local dispute settlements?			There is "Mukhiya" system in the subproject area for local dispute settlements. Despite the presence of the elected local government, importance of such system is effective till date as it was earlier.
73.	Are there any major issues raised by the stakeholders during the initial consultation?			<ul style="list-style-type: none"> Households as well as commercial entities demanded for reliable source of electricity. Requested to commence the installation of solar

S. N	Screening Questions	Yes	No	Comments/Justification (provide detailed information on your selection)
				mini grid at the earliest possible and community people were found very positive toward the subproject.
74.	What is the nature of crime in the project area? [Hint: Source of information local police]		✓	Not reported
75.	What is the level of GBV recorded in the project area? [Hint: Source of information local police]		✓	Not reported
76.	Please provide the overview (including date, venue, stakeholders invited, consultation program, key issues discussed) of the stakeholder consultation and attach the record of consultation meetings including feedback received and response.	✓		Provided in annexes of this report
Climate Benefits				
77.	Will subproject activities contribute in the reduction of GHG emissions? Description on the activities that contributes for the reduction of GHG emission	✓		Substitution of firewood/animal dung used for cooking and heating
78.	Is there any other development sectors (NGO/INGO/CBO) working on environment/climate action related activities		✓	ACAP is working in the subproject area PEEDA

(D) Conclusion

E&S Risk Category of the Subproject (High, Medium, Low):	<p>Select one of the following based on the guidance provided below.</p> <p>() High-risk: Subprojects that is likely to have significant adverse environmental and/or social impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Any subproject that needs an EIA according to GoN regulations shall be classified as high risk.</p> <p>() Medium Risk: Subprojects that involve potential adverse environmental or social impacts on human populations or environmentally important areas-including wetlands, forests, grasslands and other</p>
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	<p>natural habitats-are less adverse than those of high risk projects. These impacts are site-specific, reversible; and in most cases mitigation measures can be designed more readily than for high risk projects. Moreover, a proposed subproject is classified as medium risk that displaces less than 50 families in the mountain region, less than 75 families in the hills, and less than 100 families in the Terai plains due to involuntary land acquisition (unless such impacts are, in the judgement of AEPC, are exacerbated by other contributing factors). A project can be classified as medium risk regardless of whether it needs IEE as per GoN regulations.</p> <p>(X) Low Risk: Subprojects that likely to have minimal or no adverse environmental and social impacts. Moreover, a proposed subproject does not displace any family and none of affected person loses more than 10% of their productive assets.</p>
Main reasons/justification for the selection of E&S risk category above	Subprojects will have minimal or no adverse environmental and social impacts. Further, the proposed subproject does not displace any family and none of affected person loses their productive assets. However, as the subproject site is in ACAP region it is recommended to carry out the ESIA.
E&S Instruments to be prepared for the Subproject (ESIA, ESMP, RAP, Biodiversity Management Plan, OHS plan, Cultural Heritage Management Plan etc)	Recommended to carry out ESIA which will suggest and prepare E&S instruments to be prepared for the subproject.
Recommendations to the Design Engineer regarding E&S risk mitigation measures	It is highly recommended to liason with Rural Municipality and ACAP during the design phase regarding Transmission and Distribution route so that none of the private land has to be used. Moreover, T&D line should be designed in a way so that the aesthetic value of the forbidden valley shall not be diminished.
Beneficial impacts and augmentation opportunities for any issues? Etc.	<ul style="list-style-type: none"> • Availability of reliable sources of energy for lighting cooking and heating • Reduce dependency on traditional energy sources • Increase the prospect of energy based enterprises
The outcome of screening summarizing entire table's information with assessor's candid opinion on way forward and future	The proposed solar mini grid subproject is located in the Annapurna Conservation Area. However the proposed site do not contain any ecologically

actions limiting in one paragraph.	important flora/fauna species and route to the migratory birds, the impact on biodiversity is not envisaged. Though the subproject area of influence includes aesthetically and archeologically as well as culturally and traditionally valuable assets, the subproject activities will not have any impact on them. The land acquisition for the installation of solar PV modules, T&D line and construction of powerhouse will not have any impact on livelihood of local people. The consultations with Annapurna Conservation Area Project, Lomanthang Rural Municipality, Ward Offices, and representatives of women's group, clubs and locals revealed the urgency of reliable source of electricity in the target area for the improvement of living standards of people and for enhancing economic activities.
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Figure 4: Area of Influence

Meeting Minutes of meeting conducted with Chairperson of Lomanthang Rural Municipality

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Meeting minutes of consultation meeting conducted in Dhuk Village

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